

El Norte de Castilla

Salamanca drones in Mexico

The 'Aracnocópteros' of Arbórea meet 10 years with new challenges ahead



One of the drones, in full analysis of the blades /

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Almost 10 years ago, the Salamanca company Arbórea undertook an unexplored path until then: the manufacture of unmanned aerial vehicles for various professional uses. Today, this path has led them, among other destinations, to collaborate with Iberdrola in the analysis and inspection of the blades of its wind turbines. The drones of Arbórea, called 'Aracnocópteros', fly up to the blades, 75 or 85 meters long and, thanks to the 'software' they have, digitize them in detail, detect hidden structural problems and predict when and where there are to intervene to prolong its useful life. In the words of the head of Arbórea, Carlos Bernabéu, they get a "predictive maintenance".

The advantages are obvious. "Before you had to climb to the shovels to see how they were. They gain in security and in time when it comes to anticipating failures. They are able to 'radiograph' the blades and diagnose very well what will happen", he explains. Iberdrola's projects "require efficient and digital analysis" to improve the efficiency and profitability of structures. It is a way of "gaining time" to continue generating clean energy.

Solar farms

The 'Aracnóptero' from Salamanca has worked in Spain and in Mexico. During the last two years they have audited in depth more than 1200 shovels, but the plans for this drone do not remain there. Bernabéu explains that they will soon cross the Atlantic again to begin examining the Iberdrola solar farms. Some have more than 600,000 plates and are "a very important bet". The role of drones will be similar to what they play with wind blades, but not identical. They will analyze the surface of the plates and see which ones can cause problems, but in the end "it is a different way of working, with different problems", they explain in Arbórea.

The difference, beyond that in one case they are mills and in another solar panels, is in the 'software' that drones use. «We have several 'software' platforms. All take data that we then inspect in Salamanca. We have platforms for shovels, for photovoltaic installations, for power lines and for vertical concrete», which is used if we have to examine walls of reservoirs or industrial chimneys, for example.

Carlos Bernabéu remarks that both the drones and the programs they use to audit are from Salamanca. «The 'Aracnóptero' will be 10 years old and is built in Salamanca. We were pioneers in this. Piece by piece is built in the scientific park of the University, just like the software platforms to digitize and make millimeter resolution maps ». Of course, their work has cost them to carry out the project. The program to analyze the blades of the mills took eight years to be ready. "We have integrated all technologies: artificial intelligence, machine learning... we have had a digital approach from the beginning".

Science park

The head of Arbórea claims the "cutting edge technology" of the scientific park. In their case, they were one of the first companies in the world that trained drone pilots for civil inspections and developed such vehicles. «We are a world spearhead» on the subject, he notes.

The scientific park, by extension, is "an important pole of employment and training." «It makes a lot of sense for Salamanca and the University. It is still something important». It hosts "very specialized" companies and attracts research. Leading technology born in Salamanca and that has already conquered Mexico.

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